



# Quality Networking for Oracle Cloud

As companies move to the cloud to access critical Oracle applications, they require WAN connections to the cloud that are failsafe, reliable and trusted. A single link into the cloud may be risky and you want to ensure your customers and employees always are on the best path into the Oracle Cloud, which may be MPLS, Fast Connect, DIA Internet, or Cellular. Gain the control and connection oversight needed to trust business-critical applications in OCI with the Oracle SD-WAN Cloud solution. Application performance may suffer due to a poor connection to the cloud. Oracle SD-WAN dynamically routes application packets destined to the Oracle Cloud over the optimal WAN Path utilizing a combination of links. Oracle SD-WAN ensures that every packet in the WAN is on the best possible, secure path into OCI.

## WHY?

Enterprises are invested heavily into Oracle applications such as Fusion ERP, SCM, Manufacturing, HCM, CX, CPQ, EPM, Analytics, or Data Cloud. Many of these applications have moved or are being moved into the Oracle Cloud. In addition to utilizing Oracle Cloud Services, many companies are moving their applications and services into OCI.



### Benefits:

- Fits with existing OCI to WAN infrastructure, no rip and replace
- Oracle SD-WAN resilience, visibility and QoE for best performance into OCI and to the network Edge locations.
- Application Identification policies steer traffic to the SD-WAN then onto the OCI service
- All IP links supported – Fast Connect, Broadband, 4G/5G/LTE, Satellite, DSL, or Cable.

## HOW DOES IT WORK

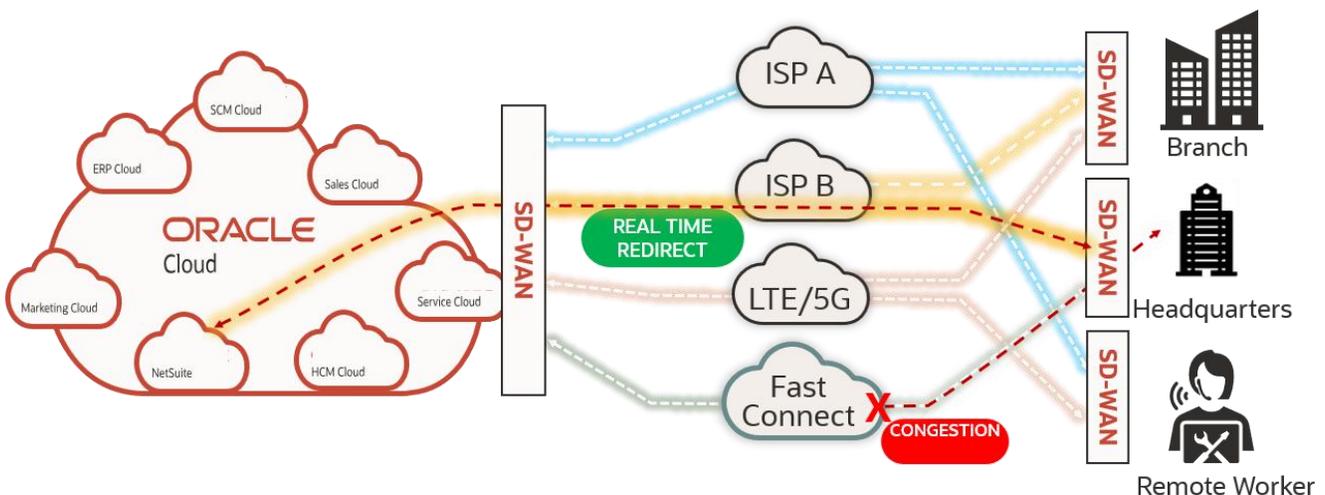
Oracle has integrated SD-WAN into OCI so that business critical services have peak performance and are highly reliable even when edge connections experience performance issues such as congestion, high latency or packet loss. With the Oracle SD-WAN, a single WAN link failure or poor performance from an ISP/carrier is dynamically rerouted to an alternative better performing WAN Link before application performance is impaired. Oracle SD-WAN provides real time response to network outages by aggregating several IP Links, monitoring the links for packet loss or congestion, and transmitting the priority application traffic over a balance of best capacity links. This creates a failsafe, reliable, trusted connection from the cloud to the edge devices. The SD-WAN also gives a comprehensive view of the network, applications and cloud traffic performance. The Oracle SD-WAN works with your existing edge network infrastructure and your Oracle Cloud infrastructure and can leverage any form of bandwidth, Fast Connect, Broadband, Cellular, etc.

## MOVING TO OCI

Oracle SD-WAN in OCI provides a quick and easy connection point to any corporate wide area network (WAN). Using the Oracle SD-WAN Orchestrator, connecting key applications to the cloud is seamless and easy, providing greater peace of mind for service sustainability. An enterprise gains assurance, control and visibility they need to trust a network into OCI for business-critical applications.

## REAL-TIME INTELLIGENCE

With Oracle SD-WAN, access to applications in OCI are not interrupted by network quality issues or failures; bandwidth becomes predictable and data is secure. The Oracle SD-WAN facilitates the aggregation of multiple broadband links into the Oracle Cloud. The SD-WAN continuously measures and monitors the quality of each possible path in each direction and the adaptation of traffic flows in real time to route around failures and poor-quality links that makes moving business-critical applications up into the cloud worry-free. In the following diagram, if Fast Connect experiences congestion or latency, the Oracle SD-WAN redirects traffic on a per packet basis on the next best route which is ISP B. No messages or packets are lost, the customer is notified that Fast Connect is congested and traffic will be rerouted back to Fast Connect when the congestion goes away.



## VISIBILITY ALL THE WAY TO THE CLOUD

Comprehensive and detailed data on the quality of each network path into OCI and the quality received by applications across that network are constantly collected and aggregated in a centralized database. This gives enterprises the insight they need to separate issues on the cloud access network from issues on the cloud applications themselves

## TRUSTED CONNECTIONS

Traffic into OCI is protected from being read or modified, all traffic over all links are fully encrypted and leverages Oracle SD-WAN's broad security coverage that includes:

- Virtual routing and forwarding (VRF)
- Stateful Edge Firewall
- Peer message authentication
- Encryption – 128- or 256-bit AES, Per-session, rotating keys, extended header and trailer, and Checksum
- IPsec - direct to cloud, VPN
- Termination, LAN and Intranet tunnel, and Dynamic Conduit
- Message Sequencing - Replay attack protection, Secure key protection and regeneration, and Sequence numbering

## CLOUD APPLIANCES

Oracle SD-WAN is a mix of physical appliances located in company offices, data centers, and virtual appliances that may be deployed from either Oracle Cloud Infrastructure (OCI), Amazon Web Services (AWS), or the Microsoft Azure.

## CLOUD CUSTOMER USE CASES

Businesses are doing a lift and shift to OCI and they require a trusted, secure, reliable, easy to operate, access to OCI applications. Here are a few examples of Oracle SD-WAN connecting businesses to OCI:

### Financial Services

Banks and financial services companies are continuously challenged to reduce cost and comply with financial regulations while offering the very high quality of service to their customers. Oracle's complete, secure, and integrated cloud solutions for commercial banking and core banking activities—enhanced with the Oracle SD-WAN provides a failsafe, trusted connection financial institutions and their constituents. Oracle platform as a service (PaaS) solutions include data management, mobile app development, and analytic capabilities to provide a path to connect with and extend existing and new services from Oracle's market leading SaaS applications in ERP, EPM, marketing, sales, service, and HCM tools as well as non-Oracle applications. Most importantly, Oracle's SD-WAN solutions allow financial institutions to integrate the entire financial ecosystem in a safe, reliable, high quality network.

Financial institutions can deliver a superior user experience because the occasional failure to connect to a cloud ERP or EPM no longer leads to business disruptions at branches. With Oracle SD-WAN, applications remain available even if a network connection to the cloud goes down. If the primary connection to a branch, which is usually MPLS, is experiencing delays or fails outright, then the SD-WAN automatically routes around the problem and sends the traffic over the secondary link, which is often a broadband connection. Because Oracle SD-WAN steers traffic on a packet-by-packet basis, not a flow basis, the failover is so fast that even support calls won't drop. Customers are unaware that anything happened, and the network management team will be spared from complaint calls to the help desk. With seamless failover of applications, the IT team doesn't have to go into firefighting mode when network outages occur, and they can stay focused on current projects.

### IoT

Oracle's Supply Chain Management (SCM) delivers real-time operational efficiencies through automated monitoring of assets, fleet, production, and workers. Digital supply chains enable businesses to detect, analyze, and respond to IoT signals, then incorporate those insights into rapidly evolving market capabilities. If the IoT signals are compromised by any network issues, the ability for the business to make decisions or adapt to the market become compromised.

Oracle's SD-WAN eliminates a single point of failure by offering multiple paths within the WAN from the IoT device to SCM Cloud as well as offering replication of data for mission critical IoT services. While Oracle's Fast Connect may provide ample bandwidth into OCI, Fast Connect may not be pervasive throughout a corporate WAN or to every IoT endpoint. Oracle's SD-WAN increases the capacity with every IP network added to the WAN, which may include Fast Connect.

While SCM may focus on IoT sensors and actuators, the real-time, trusted IoT data can also be fed the Oracle SD-WAN into Oracle's Enterprise Resource Planning (ERP) where planning or execution systems have a business impact on the supply chain. Oracle's SD-WAN ensures the IOT traffic is securely received in real-time to ERP even with network latency, congestion, or failures.

## Healthcare

Oracle empowers healthcare organizations with the industry's most complete and unified ERP, finance, HCM, supply chain, EPM, and CX cloud applications. Oracle SD-WAN delivers a highly reliable, secure, and high performing network that enables healthcare payers, providers, and researchers to leverage cloud technologies to drive innovation, reduce costs, and improve patient outcomes. Oracle SD-WAN Improves the patient experience with relevant, data-driven insights through Oracle Customer Experience Cloud solutions. Oracle's SD-WAN ensures access to Oracle's Healthcare Data Repository, Oracle's Healthcare Master Person Index, Oracle ERP cloud, Oracle SCM cloud, and Oracle's Health Insurance solution by eliminating a single point of failure and providing an aggregated, multi-path solution into OCI. No healthcare provider can afford a single point of failure, and access to the cloud healthcare applications is a critical connection for payers, providers, and researchers.

## THE TRUSTED CLOUD

High performing, superior service quality is only as strong as the weakest link. Often the weak link in enterprise services is not the server, the cloud, or the edge devices, but is often the network that connecting it all together. Companies are moving to OCI, the next step is to ensure the connection to OCI is failsafe, trusted, and provides the highest quality of experience. The Oracle SD-WAN has a proven track record to deliver superior service for large enterprises, and will continue to deliver uninterrupted, high capacity traffic as business move to OCI applications.

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